

## IMPROVED FORMULA FOR PLASTER

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### D E S C R I P T I O N

#### BACKGROUND OF THE INVENTION

**[0001]** Field of the Invention. The present invention generally relates to plaster formulations, and more particularly relates to plaster formulations for mixing color and applying it to the interior walls of houses.

**[0002]** Background Information. The present plaster formulations, which are commercially available, have several deficiencies. When applied to the interior walls of houses, current plaster formulations are typically too shiny. People would prefer a plaster that is less shiny. The current formulations scratch too easily, which is undesirable for the workman preparing the surface and also for the homeowner. The biggest problem with current formulations is that all work with the web plaster must be done fairly quickly, because the plaster sets within about forty minutes. What would be preferable, is to have more time in which to apply different layers of plaster with different colors. The different layers with different shades of colors result in an attractive effect on the wall.

[0003] Another problem with current formulations of plaster, is that they may contain chemicals that are undesirable in a home. More and more people are becoming allergic to various chemicals in the environment. It would be very desirable to have a plaster that did not contain strong fumes, acidic fumes, and in which glues of various types or complex chemicals are not utilized.

#### SUMMARY OF THE INVENTION

[0004] These and other objects are accomplished by the plaster formulation of the invention. The plaster formulation of the invention utilizes Keene's cement as one of its ingredients. J.D. Greenwood and R.W. Keene patented Keene's cement in 1838. It is a type of interior wall plaster that is obtained primarily from gypsum, which is heated above 170° C to form a hydrous calcium sulfate. This is soaked in a solution of alum (potassium aluminum sulfate) to accelerate the set. The mixture is then reheated to 400° - 500° C and ground to form a plaster.

[0005] Mixed with Keene's cement is crystalline silica. Other ingredients include dolomitic hydrated lime and calcium carbonate. These are mixed together with water to form plaster.

[0006] A cement that is considered to be equivalent to Keene's cement, for the purpose of this formula, is Parian cement. J. Keating patented Parian cement in 1846. As is Keene's cement, Parian cement is a hard finish plaster. It is prepared in a manner similar to Keene's cement, except borax is used as an additive to finely powdered gypsum in place of the alum, which is used in Keene's cement. To make Parian cement, Plaster of Paris is soaked in a solution

of borax (sodium borate), cream of tarter (potassium hydrogen tartrate), and in water and subsequently calcined. Synonyms for Parian cement are gypsum cement and hard finish plaster. Although, the formula for the plaster of the invention specifies Keene's cement, it is intended that that term cover both Keene's and Parian cement.

#### DESCRIPTION OF THE PREFERRED EMBODIMENTS

**[0007]** The preferred embodiment of the invention includes cement; preferably Keene's cement but Parian cement could also be an equivalent, crystalline silica, dolomitic hydrated lime, calcium carbonate, and water. These are mixed together to form a composition of plaster that is supplied to walls. This would typically be mixed with color and various coats of this colored plaster composition can be applied to walls. By applying several thin layers of colored plaster, improved color effects can be achieved over a single coat of colored plaster. Such multiple applications of colored coats of plaster gives the effect of depth and texture, which is desirable when combined with the non-shiny nature of the surface, formed by the formulation of the invention.

**[0008]** Although, various combinations of these ingredients fall within the claimed invention, a preferred range of ingredients is to utilize 16 - 22 parts of Keene's cement, 20 - 26 parts of crystalline silica, 3 - 5 parts of dolomitic hydrated lime, .5 - 5 parts of calcium carbonate, and 1.5 - 2.5 parts of water. Water should be added until the desired consistency is achieved, this is just an approximate value.

[0009] A specific combination, which is presently preferred, is to utilize 19 parts of Keene's cement, 23 parts of crystalline silica, 4 parts of dolomitic hydrated lime, 1 part of calcium carbonate, and 2 parts of water. When mixed together, this formulation results in a plaster compound that takes about six hours to harden. During this time, various color blends can be made and applied in layers. By applying it in layers, the color coats result in a textured, antiqued, or classical surface that has the appearance of age. This cannot be achieved with plasters currently on the market, which set in forty minutes and do not give enough time to blend colors and apply various color coats. The plaster of the present formulation also results in a surface that is not shiny. It is also comprised of mineral components, which is desirable because it does not produce heavy fumes or chemicals which are not desired inside buildings.